

Serial No.: 10/631,184
Response to Office Action Mailed January 3, 2005

Filed: July 31, 2003

Amendments to the Claims:

The listing of Claims will replace all prior versions and listings of the Claims in the application:

Listing of Claims

1. (Previously presented) An seatback audio system for use with a seat, comprising:
a seatback having a surface;
a first speaker having a first lateral dimension coupled to the surface of the seatback;
a second speaker having a second lateral dimension coupled to the surface of the seatback; and
a sound barrier coupled to the surface of the seatback and positioned between the first speaker and the second speaker to form a partition that provides stereo separation of sound waves to be emanated from the first and second speakers;
where the sound barrier has an outermost arcuated surface extending from the surface of the seatback by a distance.
2. (Original) The seatback audio system of claim 1 where the first lateral dimension is equal to the second lateral dimension.
3. (Original) The seatback audio system of claim 1 where the distance is greater than one-eighth of the first lateral dimension.
4. (Original) The seatback audio system of claim 1 where the distance is greater than one-quarter of the first lateral dimension.
5. (Original) The seatback audio system of claim 1 where the distance is greater than one-half of the first lateral dimension.
6. (Canceled)
7. (Original) The seatback audio system of claim 1 where the surface of the seatback includes a first concave surface and a second concave surface, and the first speaker is coupled to the first concave surface and the second speaker is coupled to the second concave surface.

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8. (Original) The seatback audio system of claim 1 where the first speaker and the second speaker are arranged as a dipole.
9. (Original) The seatback audio system of claim 1 where the seatback includes a headrest, and the surface of the seatback is the surface of the headrest.
10. – 11. (Canceled)
12. (Original) The seatback audio system of claim 1 where the first speaker produces a right audio channel of an audio program, and the second speaker produces a left audio channel of an audio program.
13. (Previously presented) A seatback audio system for use with a seat, comprising:
 - a seatback;
 - a first speaker having a first lateral dimension coupled to the seatback;
 - a second speaker having a second lateral dimension coupled to the seatback; and a soft-cell waveguide, the soft-cell waveguide having:
 - an innermost surface coupled to the first speaker;
 - an outermost surface spaced from the innermost surface; and
 - a plurality of hollow tubes extending from the innermost surface to the outermost surface.
14. (Original) The seatback audio system of claim 13 where the plurality of hollow tubes includes at least ten tubes.
15. (Original) The seatback audio system of claim 13 where the plurality of hollow tubes includes at least twenty tubes.
16. (Original) The seatback audio system of claim 13 where the plurality of hollow tubes are honeycomb in shape.
17. (Original) The seatback audio system of claim 13 where the plurality of hollow tubes are round in shape.

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18. (Original) The seatback audio system of claim 13 where the plurality of hollow tubes are cylindrical in shape.

19. (Canceled)

20. (Original) The seatback audio system of claim 13 where the soft-cell waveguide is formed from a flexible, resilient material.

21. (Original) The seatback audio system of claim 20 where the soft-cell waveguide is formed from open-cell foam.

22. (Original) The seatback audio system of claim 20 where the soft-cell waveguide is formed from closed-cell foam.

23. (Original) The seatback audio system of claim 13 where the surface of the seatback includes a recessed surface, the first speaker is coupled to the recessed surface.

24. - 27. (Canceled)

28. (Original) The seatback audio system of claim 1 where the first speaker is coupled to an automated positioning system, and automated positioning system is coupled to the surface of the seatback.

29. (Previously Presented) The seatback audio system of claim 28 where automated positioning system includes:

a housing;

a movable speaker mount;

a motor having a first gear coupled to the housing; and

a second gear coupled to the movable speaker mount;

where the first speaker is coupled to the movable speaker mount, and the first and second gears interact to move the movable speaker mount.

30. (Previously Presented) The seatback audio system of claim 28 where automated positioning system includes:

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a housing;
a movable speaker mount;
a motor having a first gear coupled to the movable speaker mount; and
a second gear coupled to the housing;
where the first speaker is coupled to the movable speaker mount, and the first and second gears interact to move the movable speaker mount.

31. (Canceled)

32. (Original) An seatback audio system, comprising:

a headrest including a front surface and a mounting post having a first electrical connector;

a speaker coupled to the front surface of the headrest and electrically coupled to the first electrical connector; and

a backrest including a mounting port adapted to receive the mounting post, the mounting port having a second electrical connector;

where the first electrical connector and the second electrical connector are adapted to form an electrical connection when the mounting port receives the mounting post.

33. (Original) The seatback audio system of claim 32, where the headrest has front surface, further including a second speaker coupled to the front surface of the headrest and electrically coupled to the first connector, and a sound barrier coupled to the front surface of the headrest and positioned between the first speaker and the second speaker.

34. (Previously presented) An seatback audio system for use with a seat, comprising:

a first speaker having a first lateral dimension configured to be coupled to a seatback;

a second speaker having a second lateral dimension configured to be coupled to the seatback and separated from the first speaker;

a sound barrier configured to be coupled to the seatback and configured to be positioned between the first speaker and the second speaker;

where the sound barrier has an outermost surface configured to be spaced apart from a surface of the seatback; and

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a soft-cell waveguide, the soft-cell waveguide comprising:
an innermost surface coupled to the first speaker;
an outermost surface spaced from the innermost surface; and
a plurality of hollow tubes extending from the innermost surface to the outermost surface.

35. (Original) The seatback audio system of claim 34 where the first lateral dimension is equal to the second lateral dimension

36. (Canceled)

37. (Original) The seatback audio system of claim 34 where the surface of the seatback includes a first concave surface and a second concave surface, and the first speaker is coupled to the first concave surface and the second speaker is coupled to the second concave surface.

38. (Original) The seatback audio system of claim 34 where the first speaker and the second speaker are arranged as a dipole.

39. (Original) The seatback audio system of claim 34 where the seatback includes a headrest, and the surface is on the headrest.

40. - 41. (Canceled)

42. (Original) The seatback audio system of claim 34 where the first speaker produces a right audio channel of an audio program, and the second speaker produces a left audio channel of an audio program

43. (Canceled)

44. (Original) An seatback audio system, comprising:
a headrest including a surface and a mounting post having a first electrical connector;
a speaker coupled to the surface of the headrest and electrically coupled to the first electrical connector; and

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a backrest including a mounting port adapted to receive the mounting post, the mounting port having a second electrical connector;

where the first electrical connector and the second electrical connector are adapted to form an electrical connection when the mounting port receives the mounting post, the electrical connection to provide electrical power to the seatback audio system.

45. (Original) The seatback audio system of claim 44, where the surface further includes a second speaker mounted in the surface and electrically coupled to the first connector, and a sound barrier coupled mounted in the surface and positioned between the first speaker and the second speaker.

46. (Previously Presented) The seatback audio system of claim 9 where the headrest includes a mounting post having a first electrical connector that is coupled with at least one of the first and second speakers, and the seatback further includes a backrest, where the backrest includes a mounting port and a second electrical connector, the mounting port configured to receive the mounting post, and the second electrical connector is positioned in the backrest to couple with the first electrical connector when the mounting port receives the mounting post.

47. (Previously presented) The seatback audio system of claim 34 where a periphery of the outermost surface is elliptical.

48. (Previously presented) The seatback audio system of claim 34 where the outermost surface is concaved and forms an elliptical periphery.

49. (Previously presented) The seatback audio system of claim 34 where the first speaker is coupled to an automated positioning system, and the automated positioning system is coupled to the surface of the seatback.

50. (Previously Presented) The seatback audio system of claim 49 where the automated positioning system includes:

- a housing;
- a movable speaker mount;

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a motor having a first gear coupled to the housing; and
a second gear coupled to the movable speaker mount;
where the first speaker is coupled to the movable speaker mount, and the first and second gears interact to move the movable speaker mount.

51. (Previously Presented) The seatback audio system of claim 49 where automated positioning system includes:

a housing;
a movable speaker mount;
a motor having a first gear coupled to the movable speaker mount; and
a second gear coupled to the housing;
where the first speaker is coupled to the movable speaker mount, and the first and second gears interact to move the movable speaker mount.

52. (Previously Presented) The seatback audio system of claim 49, where the seatback includes a backrest and a headrest, and the surface is on the headrest,

the headrest comprising a mounting post having a first electrical connector that is coupled with at least one of the first and second speakers,

where the backrest includes a mounting port configured to receive the mounting post and a second electrical connector that is positioned in the backrest to couple with the first electrical connector when the mounting port receives the mounting post.

53. (Previously presented) The seatback audio system of claim 1 comprising a soft-cell waveguide, the soft-cell waveguide having:

an innermost surface coupled to the first speaker;
an outermost surface spaced from the innermost surface; and
a plurality of hollow tubes extending from the innermost surface to the outermost surface.

54. (Currently Amended) A seatback audio system for use with a seat, comprising:

a first speaker having a first lateral dimension, the first speaker configured to be coupled
to a seatback;

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a second speaker having a second lateral dimension, ~~the second speaker configured to be coupled to the seatback and separated away from the first speaker; and~~

a sound barrier coupled to project outwardly from the seatback and interposed between the first speaker and the second speaker, where the sound barrier is configured to maintain separation ~~reduce cross-talk~~ of sound waves to be emanated from the respective first and second speakers.

55. (Currently Amended) The seatback audio system of claim 54 where the sound barrier is configured to cooperatively operate with a body of an occupant of the seat to further maintain separation of sound waves to be emanated from the respective first and second speakers ~~reduce crosstalk~~.

56. (Previously presented) The seatback audio system of claim 54 where the first speaker and the second speaker are arranged as a dipole.

57. (Previously presented) The seatback audio system of claim 54 where the sound barrier is positioned on the seatback to align with at least one of a head or a neck of an occupant of the seat.

58. (Previously presented) The seatback audio system of claim 54 where the first speaker produces a right audio channel of an audio program, and the second speaker produces a left audio channel of an audio program.

59. (Previously presented) The seatback audio system of claim 54 where the first speaker is coupled to an automated positioning system, and where the automated positioning system is coupled to the seatback.

60. (Previously presented) The seatback audio system of claim 59 where the automated positioning system includes:

- a housing;
- a movable speaker mount;
- a motor having a first gear coupled to the housing; and
- a second gear coupled to the movable speaker mount;

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where the first speaker is coupled to the movable speaker mount, and the first and second gears interact to move the movable speaker mount.

61. (Previously presented) The seatback audio system of claim 59 where the automated positioning system includes:

a housing;

a movable speaker mount;

a motor having a first gear coupled to the movable speaker mount; and

a second gear coupled to the housing;

where the first speaker is coupled to the movable speaker mount, and the first and second gears interact to move the movable speaker mount.

62. (Previously presented) The seatback audio system of claim 54 further comprising a soft-cell waveguide disposed in front of the first speaker, where the soft-cell waveguide comprises a plurality of hollow tubes extending substantially perpendicular to the first lateral dimension of the first speaker.

63. (Previously presented) The seatback audio system of claim 54 further comprising a soft-cell waveguide having a first surface disposed contiguous with the first speaker, and a plurality of hollow tubes extending from the first surface to a second surface of the soft-cell waveguide that is spaced away from the first speaker.

64. (Previously presented) The seatback audio system of claim 54, further comprising a first soft-cell waveguide having a plurality of hollow tubes projecting outwardly from the first speaker and a second soft-cell waveguide having a plurality of hollow tubes projecting outwardly from the second speaker.

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65. (Previously presented) The seatback audio system of claim 54, further comprising a plurality of hollow tubes formed from a soft-cell material and positioned to rest against the first speaker.